

**IN THE CLAIMS:**

1. (Original) A device for calibrating an optical detection channel for a two-dimensional, spatially dependent radiation measurement for multi-specimen carriers, particularly microtitration plates, in which the radiation of a plurality of specimens is to be measured photometrically in a darkened measurement chamber, comprising:

a plate-shaped housing which is manufactured in the shape and size of a multi-specimen carrier under examination;

said housing having, on a side facing a detection channel, a large-area rectangular window whose size is adapted to the surface of said multi-specimen carrier under examination;

said surface of said multi-specimen carrier being provided with wells;

a luminescent foil being provided inside said housing which is arranged parallel to said window so as to cover its surface; and

a power source and control units being provided in said housing for controlling the luminescent foil, so that the luminescent foil can be controlled for homogeneous emission of luminescent light through the window of said housing in different intensity levels.

2. (Original) The device according to claim 1, wherein the luminescent foil is an electro-luminescent foil.

3. (Original) The device according to claim 1, wherein the luminescent foil is covered by a filter layer.

4. (Original) The device according to claim 1, wherein the luminescent foil is covered by a pattern mask which simulates a pattern of wells of the multi-specimen carrier under examination.

5. (Original) The device according to claim 4, wherein the pattern layer is a pattern mask made from an etched plate.

6. (Original) The device according to claim 4, wherein the pattern layer is a pattern mask made from an etched or embossed foil.

7. (Currently Amended) The device according to claim 4, wherein the pattern layer is a pattern mask in the form of a light-tight press-on on a surface of ~~the~~ a filter layer.

8. (Currently Amended) The device according to claim 3, wherein ~~the~~ layers covering the luminescent foil can be exchanged in a simple manner.

9. (Currently Amended) The device according to claim 1, wherein the window is incorporated in a fold-up cover of said housing which makes it possible to exchange elements that are arranged inside said housing, ~~particularly the layers covering the luminescent foil.~~

10. (Original) The device according to claim 1, wherein a battery is provided in said housing as power source.

11. (Original) The device according to claim 1, wherein said housing has operator controls at its narrow side surfaces.

12. (Original) The device according to claim 10, wherein said housing has a charging socket at one of its side surfaces for connecting the power source to an external charging device.

13. (Original) The device according to claim 11, wherein said housing has a brightness switch at one of its side surfaces as a control unit for adjusting the irradiated intensity of the luminescent foil.

14. (Currently Amended) The device according to claim 13, wherein the brightness switch for adjusting the irradiated intensity of the luminescent foil has a plurality

of brightness levels, and by successive selection of different intensity levels of the radiation of the luminescent foil the linearity of the detector channel can be defined at least in a wavelength range adjusted by means of ~~the~~ a filter layer over an intensity range between the selected intensity levels.

15. (Original) The device according to claim 11, wherein said housing has an on/off switch at one of its side surfaces.

16. (New) The device according to claim 4, wherein layers covering the luminescent foil can be exchanged in a simple manner.